ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	CC Docket No. 94-102
Revisions of the Commission's Rules	)	
To Ensure Compatibility with	)	DA 99-1049
Enhanced 911 Emergency Calling	)	
Systems	)	

REPLY COMMENTS OF KSI INC.

KSI Inc. (KSI), by its attorneys, respectfully submits the following Reply to the Comments filed in response to the Commission's Public Notice, DA 99-1049 (released June 1, 1999) in the above-captioned proceeding. As explained fully below, KSI urges the Commission to reject the proposals of both SnapTrack and APCO.

The record amassed in this Docket, including the discussion at the Commission's most recent technological roundtable,[1] clearly demonstrates that network solutions for the provision of Phase II Automatic Location Information (ALI) exist today, and that providers of network solutions out number those of handset-based approaches. Moreover, network solutions have been and continue to be thoroughly tested, can provide AMPS, TDMA and CDMA-based carriers with the location capability necessary to comply with the Commission's current rules, cam locate wireless phone users in all areas using measurements derived from one or more sites, including rural locations, and can do so within the Commission's existing mandates for Phase II implementation.

To date, the Commission's *Report and Order, and Memorandum Opinion and Order* regarding the implementation of Phase II ALI have been technologically and competitively

[1] Attached hereto are KSI's slides from the Wireless E-911 Roundtable on June 28, 1999.

neutral defining performance criteria and not technology standards. The Commission has specifically stated that it has "not endorsed or mandated any particular ALI technology or approach."[2] However, as KSI noted in its Comments, if the Commission now adopts either SnapTrack's or APCO's proposals for waiver standards, it will dramatically alter the original intent of this Docket. By abandoning its technology neutral stance, the Commission will seriously jeopardize (by destroying the years of development and tens of millions of dollars invested in reliance on the reality of the Phase II mandate, its timetable, an its neutrality) the ability of non-handset based ALI solutions to effectively compete in the marketplace. KSI therefore reiterates that the wholesale grant of waivers through the adoption of standards or otherwise for handset-based solutions will establish one set of rules for parties, like KSI, and a second -- and more favorable -- set of rules for other parties (latecomers) -- who now promote the wide scale replacement of handsets. As noted by BellSouth Corporation, SnapTrack's proposal is, in many respects, "inconsistent with the Commission's decision to remain technology neutral and to promote the use of various technologies for the provision of Phase II ALI."[3] Accordingly, KSI implores the Commission to heed the advice of commenters like ALLTEL and refrain from adopting any standards that "either explicitly or tacitly (through a combination of compliance deadlines and accuracy standards) skew the competitive landscape for ALI technology."[4] Thus, even proponents of handset solutions have expressed concerns that the Commission must maintain its commitment to technological neutrality.[5]

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[2] "Revision to the Commission's Rules to Ensure Compatibility With Enhanced 911 Emergency Calling Systems," *Memorandum Opinion and Order on Reconsideration*, CC Docket 94-102, 12 FCC Rcd 2265, ¶124 (1997) (*Reconsideration Order*).

[3] *See* BellSouth Comments dated June 17, 1999 at 8.

[4] *See* ALLTEL Comments dated June 17, 1999 at 2.

[5] *See* Aerial Communications Inc. Comments dated June 17, 1999 at 2.

The majority of carriers responding to the Commission's request for targeted comment stress that they have not yet committed to any particular Phase II ALI solution.[6] Moreover, many carriers urge the Commission not to adopt the aggressive handset deployment schedules, penetration deadlines, or enforcement penalties that have recently been proposed.[7]

Like other commenters in this proceeding, KSI continues to believe that through robust competition in the marketplace, wireless carriers may ultimately rely upon more than one location technology to provide E911 capabilities. However, such a result must derive from the market forces of fair competition fostered by technology neutral regulatory standards rather than special accommodations made for one technology over another. As noted in the comments of the Cellular Telecommunications Industry Association, the Commission must continue to ensure that its rules do not discourage innovation or foreclose any promising technology.[8]

Commenters consistently note that the implementation and handset penetration deadlines proposed by both SnapTrack and APCO are aggressive, presumptuous, and potentially unattainable.[9] Likewise, as TruePosition points out, waiver proponents fail to "address the Commission's inability to adequately enforce the waiver conditions when the proposed

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[6] *See e.g.*, BellSouth Comments at 1; AirTouch Communications, Inc. Comments dated June 17, 1999 at 1; Ameritech Comments dated June 17, 1999 at 2; AT&T Wireless Services, Inc. Comments dated June 17, 1999 at 1; US West Wireless, L.L.C. Comments dated June 17, 1999 at 2; PrimeCo Personal Communications, L.P. Comments dated June 17, 1999 at 2; GTE Comments dated June 17, 1999 at 3.

[7] *See e.g.*, BellSouth Comments at 4; GTE Comments at 4; PrimeCo Comments at 5 ("penetration level benchmarks should be deemed an *indicator* of a carrier's compliance, rather than a mandatory rule . . ."); Sprint PCS Comments at 4 ("it would be premature at this time for the Commission to establish a firm date by which handsets must be GPS capable.").

[8] *See* Cellular Telecommunications Industry Association Comments dated June 17, 1999 at 3.

[9] *See e.g.*, BellSouth Comments at 6 ("It is unclear, however, whether these predictions will hold true and, even if accurate, whether manufacturers will be able to supply sufficient numbers of location-capable handsets to permit all carriers desiring a handset solution to acquire sufficient numbers of handsets prior to January 1, 2001."); PrimeCo Comments at 4; Sprint PCS Comments at 4; US West Wireless Comments at 5 ("availability to consumers at the retail level is not likely to occur until a few months after the proposed January 1, 2001 date"); AT&T Wireless Comments at 2 ("AT&T does not believe any carrier can commit to having 99 percent of the handsets in use on its system be ALI capable by any specific date.").

milestones are not met."[10]

Interestingly, even those carriers that indicate a potential preference to implement a handset-based ALI solution denounce the adoption of specific implementation or penetration deadlines.[11] Other commenters note that there is no guarantee that consumers will purchase handsets in accordance with the proposed implementation schedules.[12] Carriers also disagree with APCO's suggested enforcement penalties, and certain carriers even suggest that the Commission should only adopt "good faith/best effort standards to measure compliance."[13] Such comments clearly evidence the problems inherent in adopting a waiver standard that removes the responsibility of implementation from the carrier, as the rule originally intended, and places the burden on manufacturers to timely produce ALI enabled handsets, and on consumers to purchase such technology.

Certain proponents of handset solutions even go so far as to suggest that as a matter of policy it is questionable "whether mandated requirements are necessary or warranted."[14] Such commenters further suggest that the Commission should be satisfied by simply relying on the forces of the marketplace. Likewise, with a callous disregard for roaming wireless callers, SnapTrack continues to belittle its roaming problems by declaring that those who want Phase II location information can purchase the necessary handset and "vote with their wallets."[15] These arguments fail to address the fundamental nature of the Commission's regulatory goals. The

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[10] *See* TruePosition, Inc. Comments dated June 17, 1999 at 17.

[11] *See e.g.*, GTE Comments at 4; Sprint PCS Comments at 4; US West Wireless Comments at 5; AT&T Wireless Comments at 2.

[12] *See e.g.*, AT&T Wireless Comments at 2 ("there will always be certain number of wireless customers that choose to retain their old handsets."); Aerial Comments at 3; BellSouth Comments at i ("The rate at which location-capable handsets are deployed will depend upon consumer demand for the handsets.").

[13] *See* AirTouch Communications Comments dated June 17, 1999 at 12.

[14] *See* SnapTrack Comments at i; Sprint PCS Comments at 3.

[15] *See* SnapTrack Comments at 19.

mandate established in this Docket applies to the carriers, not handset manufacturers, and not the consumers of wireless services. Carriers provide services, and the Commission has correctly chosen to require that the carriers ensure the provision of ALI to achieve public safety benefits and to fulfill the Commission's E911 requirements. The Phase II ALI requirements established by the Commission were never intended to be options that a consumer would be forced to choose or not to choose based on the dictates of the size of their wallets.

KSI strongly agrees with the comments of Omnipoint Communications that adopting waiver standards for handset based solutions "will delay by years the availability of Phase II E911 service to all mobile phone users. Moreover, such solutions will create a Balkanization of E911 services and will result in disparate treatment of customers in different socioeconomic classes, customers of other service providers, customers with unregistered handsets, and customers roaming from international locations."[16] As the Texas Advisory Commission on State Emergency Communications argued in its comments, the "Commission should hold firm on the current deadlines for wireless Phase I and Phase II implementation unless any change is well supported by compelling public safety benefits."[17] As KSI and TruePosition have noted, the proposals of SnapTrack and APCO offer no improvements over the current capabilities of network solutions. Network based providers can already meet and often exceed the Commission's Phase II ALI requirements.

Moreover, the proponents of handset solutions confuse the issue by indicating that unless waivers are granted it will "restrict the choices" available to carriers.[18] This is a specious argument. The fact of the matter is that the handset-based providers joined this proceeding late

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[16] *See* Omnipoint Communications, Inc. Comments dated June 17, 1999 at 5.

[17] *See* Texas Advisory Commission on State Emergency Communications Comments dated June 17, 1999 at 2.

[18] *See e.g.*, Sprint PCS Comments at 8.

and are not ready to compete on the level playing field the Commission created. Thus, they now seek to change the rules in their favor. The Commission should allow the Phase II mandate to stand and let carriers decide how to meet it with any of the technologies that are available to do so.

Additionally, not a single commenter was able to provide a roaming solution which would allow carriers to deploy handset based solutions in compliance with the Commission's current Phase II rules. Instead, commenters simply rehashed unsupported arguments regarding handset churn rates, the fallback nature of Phase I information, and the insurmountable obstacle that would be caused should the Commission require carriers to recall or retrofit the embedded base of handsets. Even the Sprint proposal, which fell far short of complying with the Commission's current rules, seems to have fallen by the wayside, and Sprint concedes that the "vendor that had been exploring this option has stopped working on it . . . ."[19]

KSI believes the record in this Docket clearly shows that Phase II ALI can be implemented in accordance with the Commission's rules without the need for any waivers. Thus, the Commission must now take swift and unequivocal action to demonstrate its commitment to its Phase II requirements. Delay will ultimately continue to jeopardize countless lives. KSI therefore urges the Commission to complete its analysis and refrain from any more targeted comments regarding the issue of waivers of the current rules. Network based providers stand ready to implement Phase II ALI solutions; all that remains necessary is the Commission's decision to abide by its well reasoned and long settled requirements.

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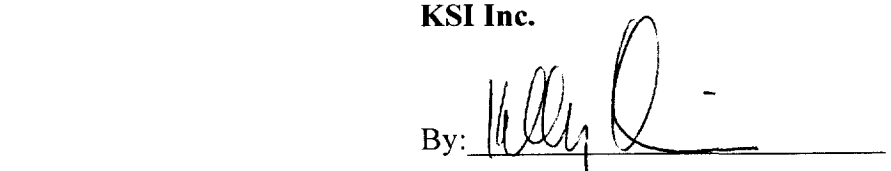
[19] *See* Sprint PCS Comments dated June 17, 1999 at 8.

For all of the foregoing reasons, KSI believes that the Commission should reject both SnapTrack's and APCO's proposed standards for waivers.

Respectfully submitted,

KSI Inc.

By: 

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Its Counsel

July 2, 1999

Wireless E911
Technology Roundtable

June 28, 1999

KSI Inc.
Dr. John E. Maloney

Figure 1

KSI Background

- Tech staff: Development of localization & tracking (L&T) systems since 1971
- CMRS LDS/PDE development
  - 1986... IP development
  - 1990... Experimental prototype demonstrations
  - 1994... NPRM support with data results
    - AMPS: access/control & traffic/voice signals
  - 1997 External investment/capitalization
  - Advanced data results
    - 1998 DAMPS/TDMA & AMPS
    - 1999 Preliminary rural
- CMRS management: COB & CEO, COO, VP

Figure 2

EKSI® Myth-Statements vs. Reality

- **Misstatements re. TeleSentinel™ network/infrastructure characteristics**

Myth	Fact
LDT not available	1990... demonstrations; production will scale in accord with orders
Will not meet requirement	Surpasses requirement for all current and future phones
Digital signal format not available	1998 TDMA demonstrated; CDMA, GSM, ESMR being developed
Rural not available	1999 preliminary rural trial results meet requirement with 12-20 mile cell-base separations
Costly	Tenfold less expensive
Requires triangles of, or at least three, antenna sites	Locations are obtained from one, two, three, etc. sites
Accuracy cannot improve	Optimally integrates all available and relevant information: - Sensor measurements - Collateral information - Handset-derived data Staged software enhancements

Figure 3

Air Interface Support

- TeleSentinel™ Development

Frequency Band

	US Cellular	PCS	Other (SMR)
AMPS	Complete		
TDMA (IS-136)	Complete	Ongoing	
CDMA (IS-95)	Ongoing	Ongoing	
GSM		Ongoing	
ESMR (iDEN)			Future

Figure 4

EKSI®

Network LDT Benefits

- **Infrastructure-based LDTs:**
  - **Locate all phones,**
    old, new, and future
  - **Accommodate all air interfaces,**
    NAMPS through 3G
  - **Support all services,**
    E911, commercial, and communications
  - **Provide security,**
    personal and public

Figure 5

EKSI®

Issues

- Location of AMPS handsets (Proc'g & info. messages vs. e.g. CDMA)
  - E.g., Rural environments
- Latency time for selective routing to the designated PSAP
  - E.g., Assisted GPS: 20 sec (goal: 6 sec)
- High-percentage Phase II E911 service
  - CEP for 50% or 67% vs. RMS (e.g., for 90%)

Figure 6

EKSI®

TeleSentinel™ LDS/PDE

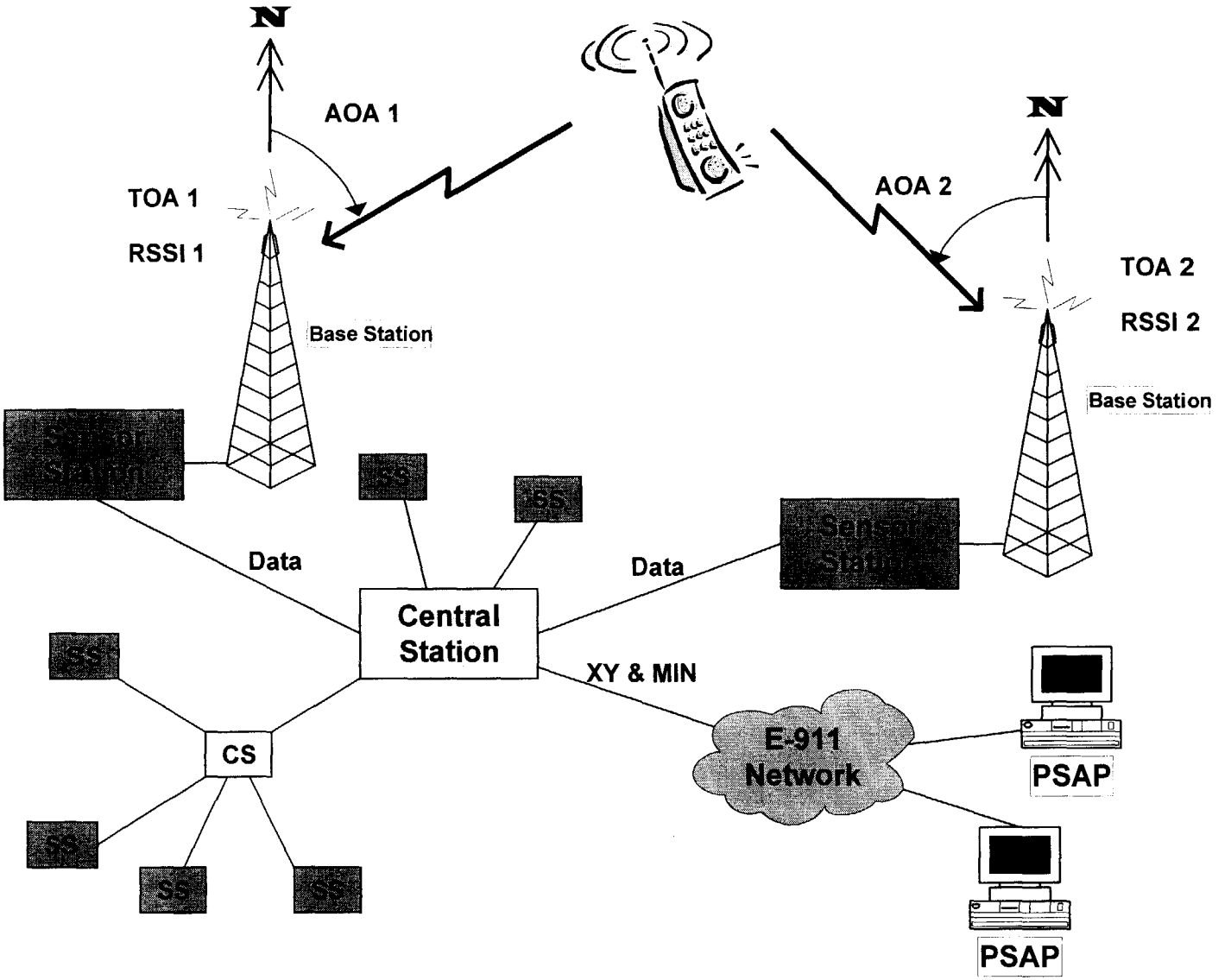

Figure 7

EKSI® Network Integration Options

- **Options for integration of the LDS/PDE with the communications system:**

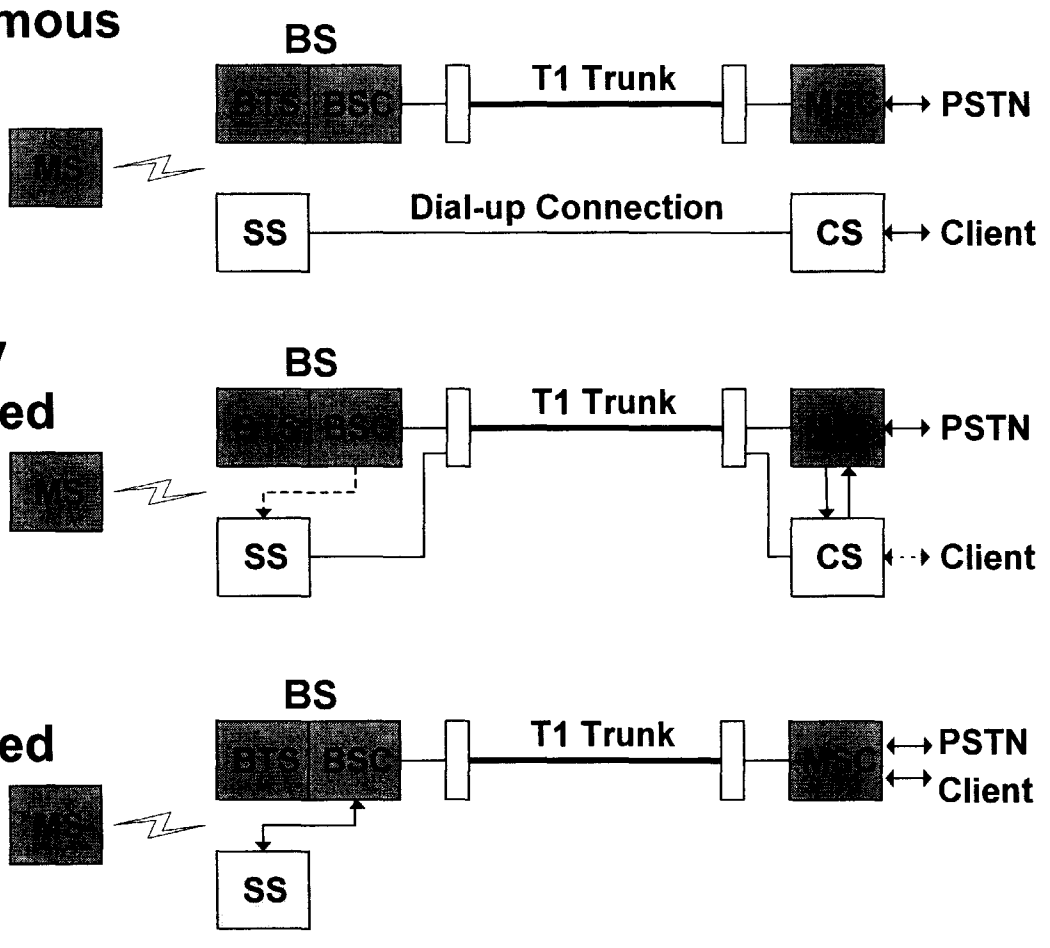

Figure 8